PATENT SPECIFICATION

623,828

Application Date : April 2, 1947. No. 9028/47.

Complete Specification Accepted : May 24, 1949.

Index at acceptance:—Class 137, A2c1.

COMPLETE SPECIFICATION.

Improvements in and relating to Louvres.

I, EDWARD SANDY, British Subject, of 268 George Street, Sydney, in the State of New South Wales, Commonwealth of Australia, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to louvres of the type wherein a plurality of co-operative hinged flaps are adjustable to regulate the passage of light and/or air.

The invention is adaptable to fanlights and window openings and is mainly directed to mechanism for operating the flaps, part of such mechanism also functioning effectively for the exclusion of rain and wind.

Examples of the invention are illustrated in the drawings herewith:—

Fig. 1 is a front elevation of a louvre.

Fig. 2 is a sectional end elevation taken on line A-A in Fig. 1.

Fig. 3 is a fragmentary perspective view showing part of the louvre shown in Fig. 1 on an enlarged scale and with its flaps closed.

Fig. 4 is a view similar to Fig. 3 with the flaps open.

Fig. 5 is a perspective view showing a rocker and parts associated therewith.

Fig. 6 is a fragmentary sectional plan taken on line B-B in Fig. 1.

Fig. 7 is a view similar to Fig. 6 illustrating a minor modification.

Fig. 8 is a sectional elevation repeating a part of Fig. 2 but with the flaps closed and on an enlarged scale.

Fig. 9 is a perspective view of a flap end portion.

Fig. 10 is a perspective view illustrating a modified construction.

The flaps 1 comprise sheets of glass or other material, and bearer brackets 2, having grooves into which the sheets are slid and clamped, the ends 3 of the brackets being bent over the edges of the sheets.

Pivot pins 4 projecting from the middle of the bearer brackets 2 at each end of the flaps are severally journalled in sockets 5 which fit tightly in holes provided in the vertical side members 6 of the louvre frame which, in this example, are assumed to be of wood.

Upon each side of the louvre is a coupling bar 7 of channel section whereto the bearer brackets 2 are pivotally connected by cross pins 9 which pass through extensions 8 from the brackets 2, and are carried in the flanges of the coupling bars. Spiral springs 10 are sleeved upon the cross pins 9, upon one or each side of the extension 8 to inhibit vibration and consequent chattering of parts under wind pressure.

The coupling bars are so shaped and disposed that, when the flaps are closed, one flange 11 of the coupling bar fits into a longitudinal groove 12 in frame member 6, the edge of the opposite flange 11A of the bar is of saw tooth form as shown to make close contact with the faces of the superposed flaps, the coupling bars thereby functioning (when the flaps are closed) as weather strips at the ends thereof.

The coupling bars ensure concerted opening or closing movement of the flaps, and any simple handpiece or lever may be connected to one of the bearer brackets to facilitate such opening or closing. In one arrangement the bottom bearer brackets have rocker plates 13 fixed thereto.

The rocker plate at the bottom of the louvre upon one side thereof may be connected to the rocker plate upon the other side by a hand rail 14, so that the louvres are operable from any position within reach of the rail.

When the louvre is likely to be exposed to unusually rough weather, the rocker plates (13) at the top of the louvre may be pivotally connected to the lower rocker plates by reinforcing bars 16 which, when the flaps are closed, are clear of the framing 6.

The ends of the side flanges of the channel-sectioned coupling bars 7 are bevelled off (see Figs. 2 and 8) and the web metal at the top of each bar turned in (at 15) flush with the bevelled flange ends so to contact neatly with a sealing strip 17 fixed to a horizontal member 18 of the frame, the sealing strip being clamped between the outer face of the top flap and the adjacent upper edge faces of the coupling bar 7 when in its closed position as shown in Fig. 8.

To lock the flaps in any position into which

[*Price* 2/-]

they have been adjusted, a spring-loaded bolt 21 fixed to the frame 6 is engaged in one of a series of holes 22 provided in the relevant lower rocker plate 13.

It will be understood that an important feature of the invention consists in the coupling bar which connects all the flaps so that they function co-operatively, and also when the flaps are closed functions in conjunction with the parts described, to exclude wind and rain which otherwise might pass in between the ends of the flaps and the louvre frame.

When either of the coupling bars may be reached from outside the louvre, the flaps, if the bolt is free, may be operated by moving the coupling bar up or down.

In the modification shown in Fig. 7, an angle piece 23 fixed to the frame member 6 has a flange 24 beside which the flange 11 of the coupling bar closes.

In each of the constructions herein described the bearer brackets 2 may be furnished with a tongue 25 which closes against the inside face of the flange 11A of its respective coupling bar.

In the construction shown by Fig. 10 the bearer brackets (having end tongues 26 adapted to be bent against an inserted plate of glass or other sheet material) are pivoted to stiles 27 and held resiliently but firmly in position against the outer face of the said stile 27 by means of bolting or riveting through spring washers (not shown) on the back or inner channel face of said stile 27. This stile 27 is fixed to the window or like frame 6A by screws 28 or other fastenings. The stiles, which may be of extruded aluminium or other metal or material, have grooves 29 therein to receive the flange 11 of a coupling bar 7.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A louvre comprising the combination with a plurality of flaps, in end bearer brackets pivotally mounted in the sides of a frame, of a pair of channel-sectioned coupling bars pivoted to said bearer brackets at each side of said frame respectively, each of said coupling bars having one flange able to engage a side member of said frame and its other flange of saw-tooth form so as to bear closely against said flaps when closed.

2. In a louvre, according to claim 1, a coupling bar, one flange of which when the louvre is closed, is received by a longitudinal groove in the louvre frame.

3. A louvre, according to claim 1, wherein extensions from each of the bearer brackets carrying the flaps enter between the flanges of said coupling bars and are pivoted therein upon cross pins having compression springs sleeved thereon.

4. A louvre, according to claim 1, characterised by the employment of rocker plates associated with the flaps which are operable by turning of said rocker plates.

5. A louvre, according to claim 4, wherein the rocker plates are operable by a vertical push rod.

6. A louvre, according to claim 1, wherein rocker plates for actuating the flaps combine with locking means whereby the flaps are retained in the position to which they are adjusted.

7. A louvre, according to claim 1, wherein each upright member of said frame is partly constituted by a stile having a groove therein able to receive a flange on a coupling member.

8. The louvre constructions herein described with reference to the accompanying drawings.

Dated this 2nd day of April, 1947.

POLLAK, MERCER & TENCH,
Chartered Patent Agents,
134 Cheapside, London, E.C.2,
Agents for the Applicant.

Printed for H.M. Stationery Office by the Redditch Indicator Co., Ltd., Redditch. Code 39-242.—1949.
Published at the Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies, price 2s. 0d. each (inland), 2s. 1d. (abroad) may be obtained.

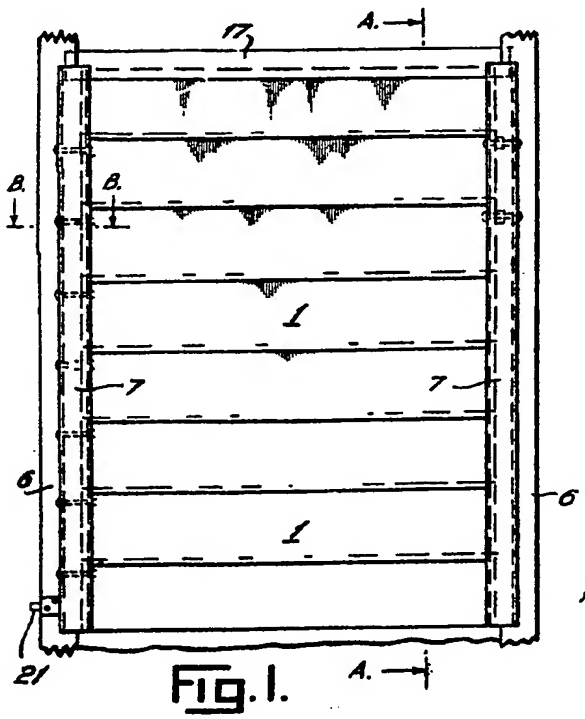


Fig. 1.

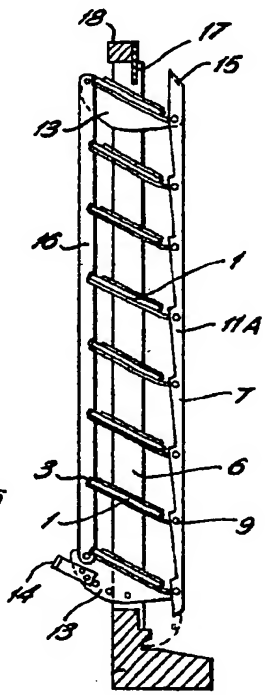


Fig. 2.

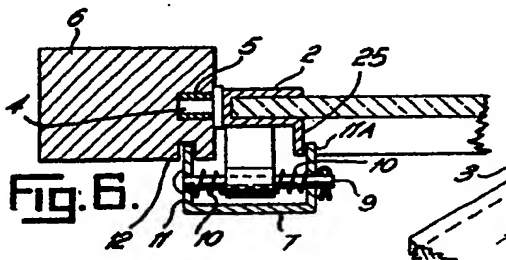


Fig. 6.

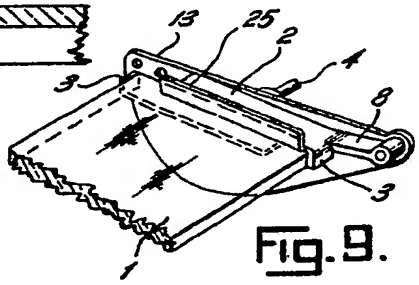


Fig. 9.

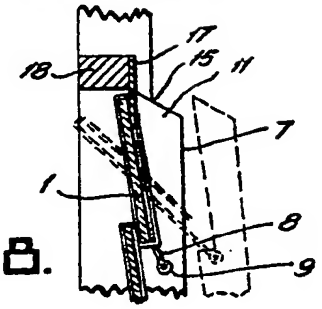


Fig. 8.

[This Drawing is a reproduction of the Original on a reduced scale.]

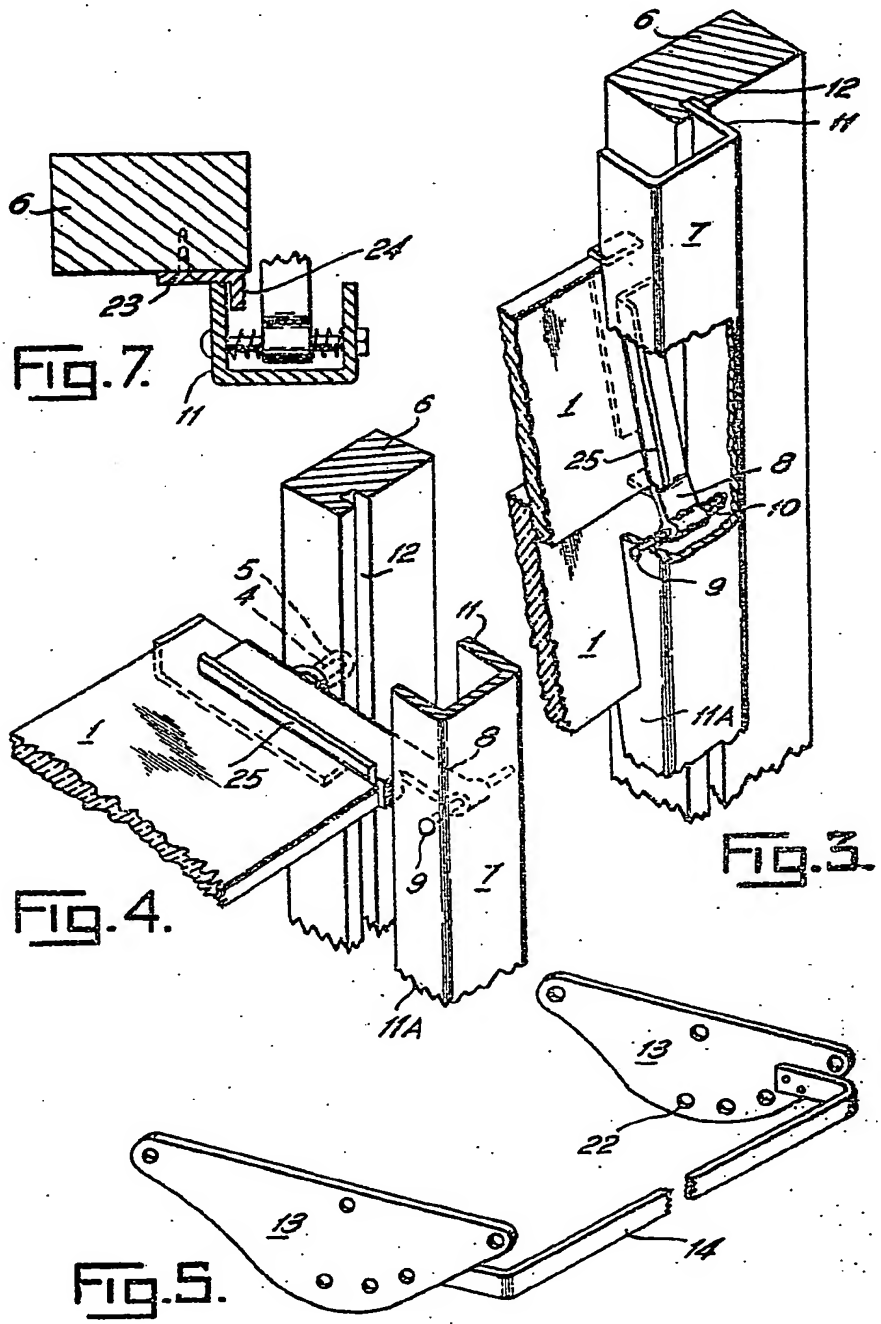


FIG. 7.

FIG. 3.

FIG. 4.

FIG. 5.

SHEET 2

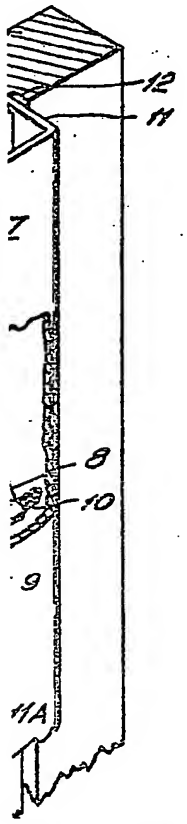
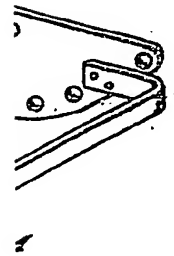


Fig. 3.



SHEET 3

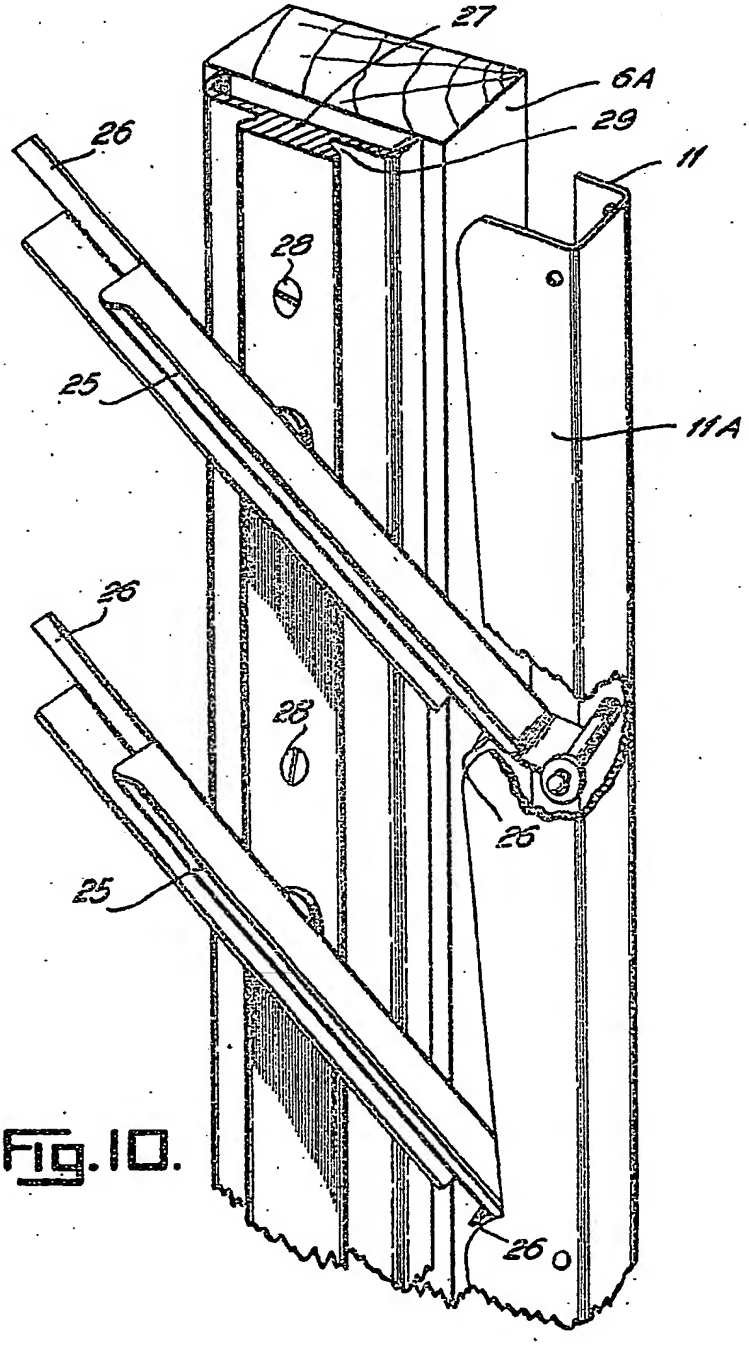


Fig. 10.

H. M.S.O. (Ty. P.)

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3 SHEETS

SHEET 2

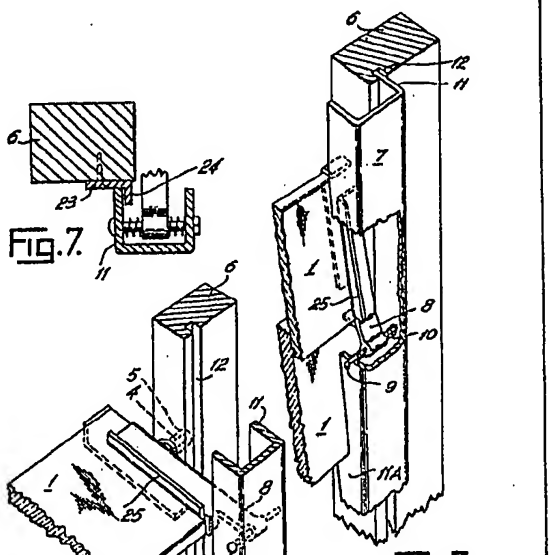

Fig.3.

Fig.4.

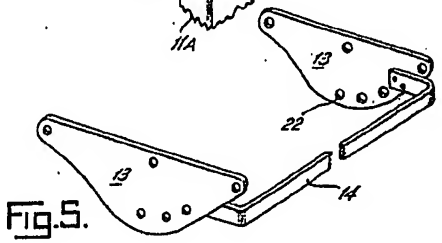

Fig.5.

Fig.7.

SHEET 3

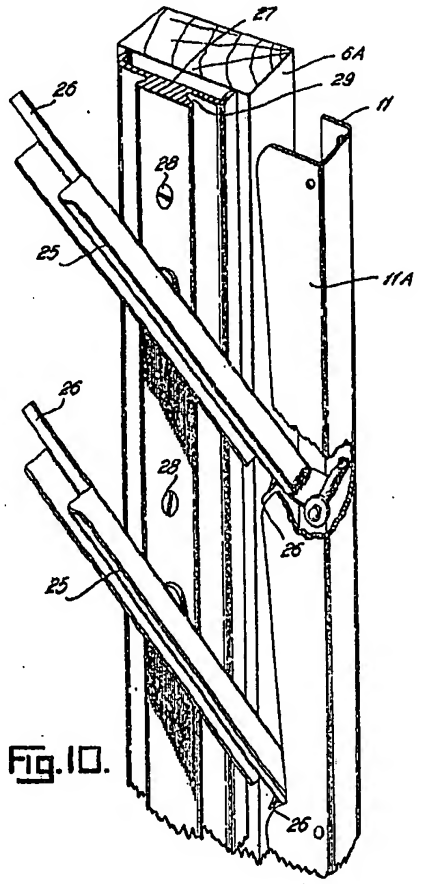

Fig.10.

[This Drawing is a reproduction of the Original on a reduced scale.]

H.M.S.O.(Ty. H.)